CLAIMS

1. A method for the detection of *Streptococcus sobrinus* in a test fluid suspected of containing *Streptococcus sobrinus* and *Streptococcus mutans*, said method comprising the steps of

(A) providing an antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans*;

(B) bringing the antibody into contact with the test fluid to form an immune complex; and

(C) assaying the immune complex.

2. A method as claimed in claim 1 wherein the antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans* is a polyclonal antibody.

3. A method as claimed in claim 2 wherein the binding ability for *Streptococcus sobrinus* is determined with respect to the serotype d and g strains of the bacterial species, and the mutual ratio between the binding abilities for the serotype d and g strains is within 2.

4. A method as claimed in claim 1 wherein the test fluid suspected of containing *Streptococcus sobrinus* and *Streptococcus mutans* contains *Streptococcus sobrinus* at a concentration of 10^5 to 10^7 cells/ml.

5. A method as claimed in any one of claims 1 to 4 wherein the immune complex is assayed by an immunochromatographic technique.

6. A diagnostic method for judging the degree of risk of dental caries in a human subject, said method comprising the steps of

(a) preparing a test fluid derived from the saliva and/or

dental plaque of the subject;

(b) providing an antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans*;

(c) bringing the test fluid prepared in step (a) into contact with the antibody provided in step (b) to form an immune complex; and

(d) assaying the immune complex, and evaluating its amount as an index to a risk of dental caries.

7. A diagnostic method as claimed in claim 6 wherein the antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans* is a polyclonal antibody.

8. A diagnostic method as claimed in claim 7 wherein the binding ability for *Streptococcus sobrinus* is determined with respect to the serotype d and g strains of the bacterial species, and the mutual ratio between the binding abilities for the serotype d and g strains is within 2.

9. A diagnostic method as claimed in claim 6 wherein the test fluid contains *Streptococcus sobrinus* at a concentration of 10^5 to 10^7 cells/ml.

10. A diagnostic method as claimed in any one of claims 6 to 9 wherein step (c) is carried out in the coexistence of the antibody (S antibody) with an antibody binding specifically with *Streptococcus mutans* (M antibody), or in addition to step (c), another step similar to step (c) is carried out by using M antibody in place of S antibody; the resulting immune complex derived from M antibody is also assayed; and the amount of this complex is also evaluated as an index

to a risk of dental caries.

11. A diagnostic method as claimed in claim 10 wherein an antibody binding specifically with *Streptococcus mutans* and *Streptococcus sobrinus* (MS antibody) is used in place of M antibody.

12. A diagnostic method as claimed in any one of claims 6 to 11 wherein the one or more immune complexes are assayed by an immunochromatographic technique.

13. A diagnostic method as claimed in any one of claims 6 to 12 wherein the test fluid is untreated saliva.

14. An immunoassay kit or a diagnostic kit for judging the degree of risk of dental caries in human subjects, said kit including an antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans*; and if necessary, an antibody binding specifically with *Streptococcus mutans*, or an antibody binding specifically with *Streptococcus mutans* and *Streptococcus sobrinus*.

15. An immunochromatographic strip comprising a sample pad for absorbing and holding a test fluid temporarily, a conjugate pad for holding a labeled antibody temporarily, and a development membrane having a detection antibody immobilized thereto and allowing the development of the test fluid absorbed and held temporarily in the sample pad and the labeled antibody flowing out of the conjugate pad together with the test fluid, wherein the sample pad, the conjugate pad and the development membrane are joined together in the order mentioned, said immunochromatographic strip being characterized in that an antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans* is used as the

detection antibody.

16. An immunochromatographic strip as claimed in claim 15 wherein an antibody binding specifically with *Streptococcus mutans* or an antibody binding specifically with *Streptococcus mutans* and *Streptococcus sobrinus* is concurrently used as an additional detection antibody immobilized to the development membrane

17. A polyclonal antibody whose binding ability for *Streptococcus sobrinus* is not less than 100 times that for *Streptococcus mutans*.

18. A polyclonal antibody as claimed in claim 17 wherein the binding ability for *Streptococcus sobrinus* is determined with respect to the serotype d and g strains of the bacterial species, and the mutual ratio between the binding abilities for the serotype d and g strains is within 2.